SATA II / ATA 133 PCIe Card
RC216
User Manual

Content

SATA II / ATA 133 PCIe Card

Features and Benefits

- Compliant with one-lane 2.5Gb/s PCI Express specification
- Compliant with Serial ATA 1.0 specification
- Supports Serial ATA Generation 2 transfer rate of 3.0Gb/s
- Supports Native Command Queue (NCQ) on SATA ports
- Provide three independent channels to connect two SATA and two PATA hard disk drives
- Supports up to UDMA6 transfer mode of PATA
- Supports up to 4 storage device connection
- Supports RAID 0, 1, 0+1 and JBOD functions
- Supports Windows® 2000, XP/2003 32/64 bit, Vista 32/64 bit

Connectors

- 2 x internal SATA connectors
- 2 x external eSATA connectors
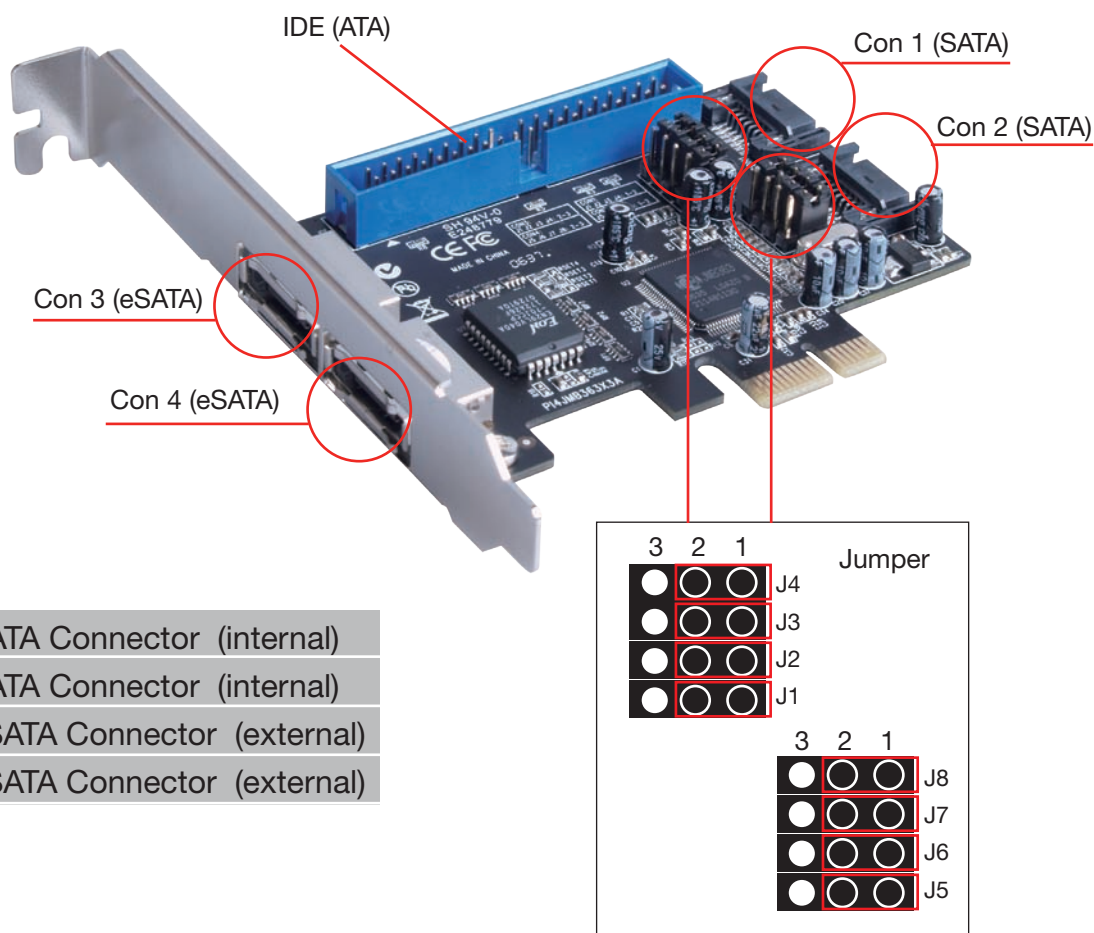- 1 x PATA connector

System Requirements

- Windows® 2000, XP/2003 32/64 bit, Vista 32/64bit
- PCI Express-enabled system with an available PCI Express slot

Package Contents

- 1x PCIe SATA II 300 + PATA RAID Card
- 1x Driver CD
- 1x SATA Data Cable
- 1x ATA 133 IDE Cable
- 1x Manual

Note: Contents may vary depending on country/market

Hardware Description

IDE (ATA)

Con 1 (SATA)

Con 2 (SATA)

Con 3 (eSATA)

Con 4 (eSATA)

3   2   1   Jumper

J4
J3
J2
J1

3   2   1

J8
J7
J6
J5

Con 1	SATA Connector (internal)
Con 2	SATA Connector (internal)
Con 3	eSATA Connector (external)
Con 4	eSATA Connector (external)

| Jumper Settings		
JP	Description	Active port
J1-J4	1-2 close	Enable SATA Connector Con 1
	2-3 close	Enable SATA Connector Con 3
J5-J8	1-2 close	Enable SATA Connector Con 2
	2-3 close	Enable SATA Connector Con 4

Note :

There are four SATA ports in PCIe SATA II 300 + PATA Raid Card. We name these ports CON1 to CON4. Ports CON1 & CON2 are internal SATA ports and CON3 & CON4 are external eSATA ports. By changing the jumper setting on the PCIe SATA II 300 + PATA Raid Card that allows you to select between external and internal ports to use. By default, Port CON1 & CON2 are working.

Step by step photo installation of Magic Switch

There are four SATA ports in RC216 RAID adapter. We named these ports character Con1 through Con4. Con1 and Con2 are internal SATA ports. Con3 and Con 4 are external eSATA ports.
By changing the jumper setting on RC216 that allows you to utilize 2 ports of this card. Please reference our photos below for the proper jumper setting. With different jumper setting you can active Con1, Con2, Con3 and Con4 by referencing the following photos.

Mode 1 (Default) - Con1 Con2 Active
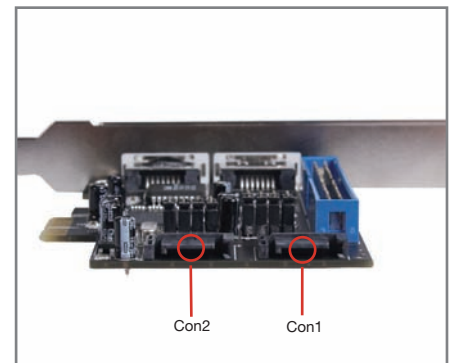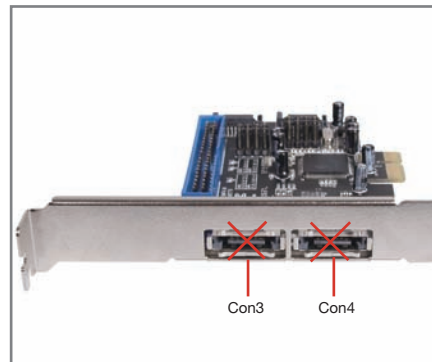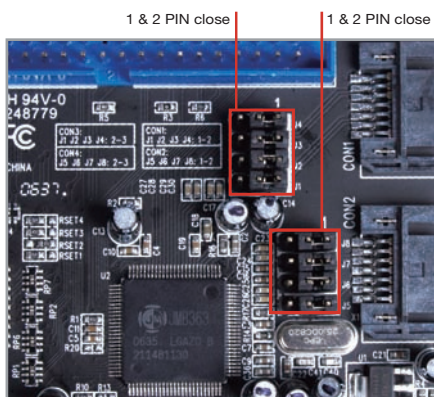
Mode 2 - Con1 Con4 Active
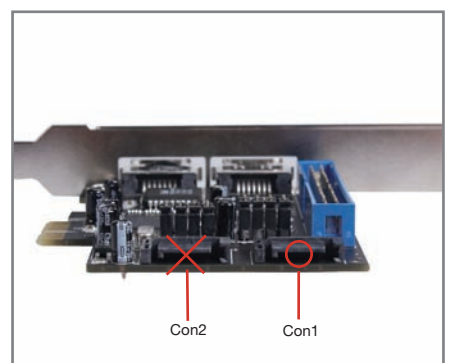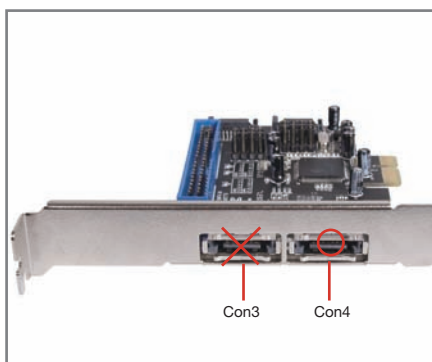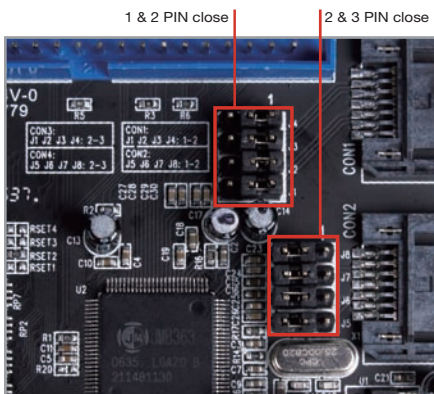
Mode 3 - Con4 Con3 Active
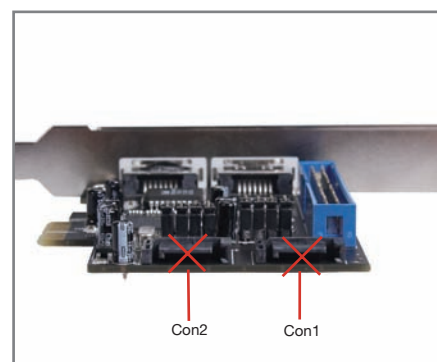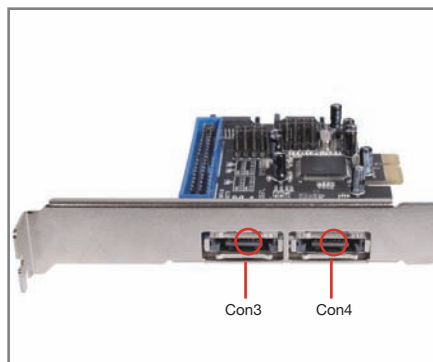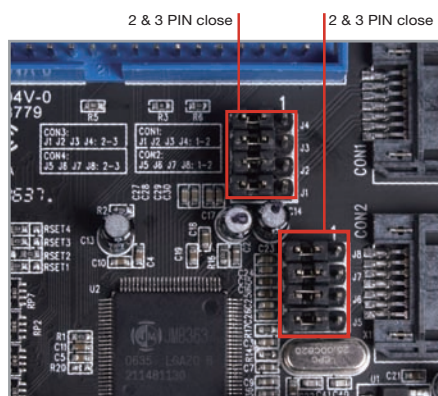
Mode 4 - Con2 Con3 Active
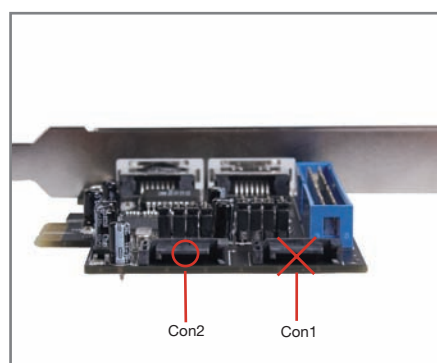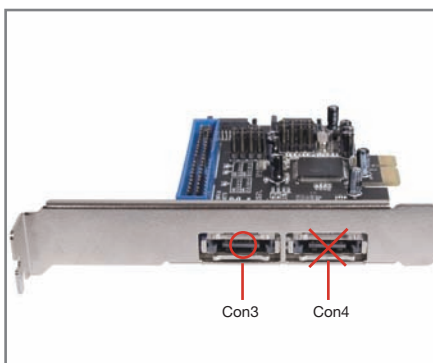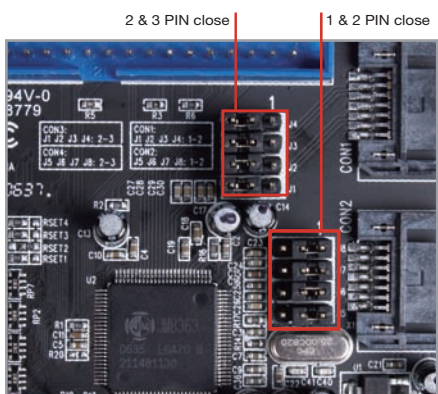
Note: By default, Con1 and Con2 are working. Con3 and Con4 are deactive.

Hardware Installation

1. Turn Off the power to your computer.
2. Unplug the power cord and remove your computer's cover.
3. Remove the slot bracket from an available PCIe slot.
4. To install the bard, carefully align the card's bus connector with the selected PCIe slot on the motherboard. Push the board down firmly.
5. Attach your internal or external devices to the PCIe SATA II 300 + PATA Raid Card.
6. Replace the slot bracket's holding screw to secure the card.
7. Replace the computer cover and reconnect the power cord.

RAID Arrays

RAID Arrays are setup in the PCIe SATA II 300 + PATA Raid Card's BIOS.

There are four configurations supported:

RAID level/Type	Configurations	Number of disks needed
RAID 0	Disk Striping	2 or 3 or 4
RAID 1	Disk Mirroring	2
RAID 0+1	Disk Striping + Mirroring	4
JBOD Disk	Concatenation	2 or 3 or 4

RAID 0 (Striping)

1. As the BIOS boots press **Ctrl+J** when prompted to enter the RAID BIOS.
2. At the next screen select **Create RAID Disk Drive**, press **Enter.**
3. Enter RAID name, press **Enter**.
4. Please use arrow keys ↑ and ↓ to switch the RAID level to **0-Stripe,** then press **Enter**.
5. Please use arrow keys ↑ and ↓ to switch the disk, use the "space" key to mark the selected disk, then press **Enter**.
6. Please use arrow keys ↑ and ↓ to select chunk size from **4K, 8K, 16K, 32K, 64K** or **128K**, then press **Enter**.
7. Input the RAID size, press **Enter**.
8. When asked **Created RAID on the select HDD (Y/N)?**, press **Y** to accept.
9. At the next screen select **Save And Exit Setup**, press **Enter**. When asked **Save to disk &Exit (Y/N)?**, press **Y** to exit the BIOS.

RAID 1 (Mirroring)

1. As the BIOS boots press **Ctrl+J** when prompted to enter the RAID BIOS.
2. At the next screen select **Create RAID Disk Drive**, press **Enter**.
3. Enter RAID name, press **Enter**.
4. Please use arrow keys ↑ and ↓ to switch the RAID level to **1-Mirror**, then press **Enter**.
5. Please use arrow keys ↑ and ↓ to switch the disk, use the "space" key to mark the selected disk, then press **Enter**.
6. Input the RAID size, press **Enter**.
7. When asked **Created RAID on the select HDD (Y/N)?**, press **Y** to accept.
8. At the next screen select **Save And Exit Setup**, press **Enter**. When asked **Save to disk &Exit (Y/N)**?, press **Y** to exit the BIOS.

CONCATENATION (JBOD)

1. As the BIOS boots press **Ctrl+J** when prompted to enter the RAID BIOS.
2. At the next screen select Create RAID Disk Drive, press **Enter**.
3. Enter RAID name, press **Enter**.
4. Please use arrow keys ↑ and ↓ to switch the RAID level to **JBOD-Concatenate,** then press **Enter**.

5. Please use arrow keys ↑ and ↓ to switch the disk, use the "space" key to mark the selected disk, then press **Enter**.

6. Input the RAID size, press **Enter**.

7. When asked **Created RAID on the select HDD (Y/N)?**, press **Y** to accept.

8. At the next screen select **Save And Exit Setup**, press **Enter**.
   When asked **Save to disk &Exit (Y/N)?**, press **Y** to exit the BIOS.

RAID 0+1 (Striping + Mirroring)

1. As the BIOS boots press **Ctrl+J** when prompted to enter the RAID BIOS.

2. At the next screen select **Create RAID Disk Drive**, press **Enter**.

3. Enter RAID name, press **Enter**.

4. Please use arrow keys ↑ and ↓to switch the RAID level to **01-Stripe+Mirror,** then press **Enter**.

5. Please use arrow keys ↑ and ↓ to select chunk size from **4K, 8K, 16K, 32K, 64K** or **128K**, then press **Enter**.

6. Input the RAID size, press **Enter**.

7. When asked **Created RAID on the select HDD (Y/N)?**, press **Y** to accept.

8. At the next screen select **Save And Exit Setup**, press **Enter**.
   When asked **Save to disk &Exit (Y/N)?**, press **Y** to exit the BIOS.

Delete RAID Disk Drive

1. As the BIOS boots press **Ctrl+J** when prompted to enter the RAID BIOS.

2. At the next screen select **Create RAID Disk Drive**, press **Enter**.

3. Please use arrow keys ↑ and ↓ to select the array you want to **delete**.

4. When asked **ALL DATA ON THE RAID WILL LOST!! ARE YOU SURE TO DELETE (Y/N)**, press **Y** to accept.

Solve Mirror Conflict

When a RAID set is created, then metadata written to the disk includes drive connection information. If, after a disk failure, the replacement disk was previously part of a RAID set (or used in another system), it may have conflicting metadata. If so, this will prohibit the RAID set from being either created or rebuilt, in order for the RAID set to function properly, this old metadata must be first overwritten with the new metadata. To resolve this, from the main BIOS window select **Solve Mirror Conflict**, then press **Enter**, the correct metadata, including the correct drive connection information, will be written to the replacement disk.

Rebuild Mirror Drive

When a failure to one member occurs, you will be notified by the RAID BIOS during boot. The steps below will guide you in rebuilding a failed mirror set.

1. Replace he failed drive(s) with one of equal or greater capacity, then start the computer.
2. During boot press **Ctrl+J** to enter the RAID BIOS.
3. Select **Rebuild Mirror Drive** press **Enter.**
4. Please use arrow keys↑ and ↓ to select the array you want to rebuild, press **Enter.**
5. Please use arrow keys↑ and ↓ to select the destination disk, press **Enter.**
6. When rebuilding is finished, select **Save And Exit Setup**, press **Enter.**. When asked **Save to disk &Exit (Y/N)?**, press **Y** to exit the BIOS.

BIOS Configuration

The PCIe SATA II 300 + PATA Raid Card BIOS will appear every time your system starts up. During this (POST) process, the BIOS will show up and indicate the devices attached to it.

Driver Installation

For Windows® 2000, XP and Server 2003 32bit
<u>For New Installation</u>
A new installation requires a floppy disk for the driver installation. To make this floppy disk, copy the contents of the "**RC-216\Floppy32**" folder, found on the driver CD, onto a blank floppy disk then follow the directions below.

1. Setup the RAID Array prior to Windows installation.
2. Follow Microsoft's Windows installation procedure.
3. Restart the computer when prompted by Windows' installation.
4. At the Windows Setup screen, press **F6** to install the RAID driver.
5. When prompted, press **S** to specify the location of the driver.
6. Insert the floppy disk, then press **Enter.**
7. Select **(Windows 2000) RAID Driver for JMicron JMB363 Controller or (Windows XP/2003) RAID/AHCI Driver for JMicron JMB36X Controller,** then press **Enter.**
8. Press **Enter** to finish driver installation, then follow the on-screen instructions to complete the Windows installation.

For An Existing Installation

1. Setup the RAID Array prior to driver installation and boot up to Windows.
2. At the **Found New Hardware Wizard** window pop-up, please click **Cancel** button to cancel the driver installation for the device at this moment. The driver for this device will be installed in the next step.
3. Please insert the CD driver bound with PCIe SATA II 300 + PATA Raid Card into your CD-ROM Drive.
4. At the Windows desktop, click **Start**, then **Run**.
5. Type **D:\ RC-216\Setup.exe**, click **OK**. (Change **D**:\ to match your CD-ROM drive letter)
6. Follow the on-screen instructions to complete the installation.
7. Restart Windows to complete the installation.

For Windows® XP-x64/Server 2003-x64 bit
For New Installation

A new installation requires a floppy disk for the driver installation. To make this floppy disk, copy the contents of the "**RC-216\Floppy64**" folder, found on the driver CD, onto a blank floppy disk then follow the directions below.

1. Setup the RAID Array prior to Windows installation.
2. Follow Microsoft's Windows installation procedure.
3. Restart the computer when prompted by Windows' installation.
4. At the Windows Setup screen, press **F6** to install the driver.
5. When prompted, press **S** to specify the location of the driver.
6. Insert the floppy disk, then press **Enter.**
7. Select **(Windows XP/2003 x64) RAID/AHCI Driver for JMicron JMB36X Controller,** then press **Enter.**
8. Press **Enter** to finish driver installation, then follow the on-screen instructions to complete the Windows installation.

For An Existing Installation

1. Setup the RAID Array prior to driver installation and boot up to Windows.
2. At the **Found New Hardware Wizard** window pop-up, please click **Cancel** button to cancel the driver installation for the device at this moment. The driver for this device will be installed in the next step.
3. Please insert the CD driver bound with PCIe SATA II 300 + PATA Raid Card into your CD-ROM Drive.
4. At the Windows desktop, click **Start**, then **Run**.
5. Type **D:\ RC-216\Setup.exe**, click **OK**. (Change **D**:\ to match your CD-ROM drive letter)
6. Follow the on-screen instructions to complete the installation.
7. Restart Windows to complete the installation.

For Windows® Vista 32 bit

For New Installation

A new installation requires a floppy disk for the driver installation. To make this floppy disk, copy the contents of the "**RC-216\Floppy32**" folder, found on the driver CD, onto a blank floppy disk then follow the directions below.

1. Setup the RAID Array prior to Windows installation.
2. Follow Microsoft's Windows installation procedure.
3. Restart the computer when prompted by Windows' installation.
4. At the Windows Setup screen, press **Load Driver** to install the driver.
5. Insert the floppy disk, please select **JMicron JMB36X Controller (A:\jraid_f.inf)**, then press **Next**. (Change **A**:\ to match your floppy drive letter)
6. Follow the on-screen instructions to complete the Windows installation.

For An Existing Installation

1. Setup the RAID Array prior to driver installation and boot up to Windows.
2. At the **Found New Hardware Wizard** window pop-up, please click **Cancel** button to cancel the driver installation for the device at this moment. The driver for this device will be installed in the next step.
3. Please insert the CD driver bound with PCIe SATA II 300 + PATA Raid Card into your CD-ROM Drive.
4. At the Windows desktop, click **Start**, then **Run**.
5. Type **D:\ RC-216\Setup.exe**, click **OK**. (Change **D**:\ to match your CD-ROM drive letter)
6. Follow the on-screen instructions to complete the installation.
7. Restart Windows to complete the installation.

For Windows® Vista 64 bit

For New Installation

A new installation requires a floppy disk for the driver installation. To make this floppy disk, copy the contents of the "**RC-216\Floppy64**" folder, found on the driver CD, onto a blank floppy disk then follow the directions below.

1. Setup the RAID Array prior to Windows installation.
2. Follow Microsoft's Windows installation procedure.
3. Restart the computer when prompted by Windows' installation.
4. At the Windows Setup screen, press **Load Driver** to install the driver.
5. Insert the floppy disk, please select **JMicron JMB36X Controller (A:\jraid_f.inf)**, then press **Next**. (Change **A**:\ to match your floppy drive letter)
6. Follow the on-screen instructions to complete the Windows installation.

For An Existing Installation

1. Setup the RAID Array prior to driver installation and boot up to Windows.

2. At the **Found New Hardware Wizard** window pop-up, please click **Cancel** button to cancel the driver installation for the device at this moment. The driver for this device will be installed in the next step.

3. Please insert the CD driver bound with PCIe SATA II 300 + PATA Raid Card into your CD-ROM Drive.

4. At the Windows desktop, click **Start**, then **Run**.

5. Type **D:\ RC-216\Setup.exe**, click **OK**. (Change **D**:\ to match your CD-ROM drive letter)

6. Follow the on-screen instructions to complete the installation.

7. Restart Windows to complete the installation.

To Verify Driver Installation

Click on the "**Device Manager**" tab in System Properties, which you access from the Windows Control Panel. You should see a "**JMicron JMB36X Controller**" installed under "SCSI and RAID controllers (Storage controllers – Vista)

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